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Urology

RARE URINARY BLADDER MASSES – OUR INSTITUTE OWN CASE SERIES

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ABSTRACT **Introduction:** So far, there have been limited scientific reports regarding the rare masses found in the urinary bladder, which becomes evident when reviewing medical journals. The number of these reports is insufficient to establish a treatment protocol. Furthermore, there is a noticeable deficiency of randomized trials focused on this uncommon condition. **Case Series:** In this series of cases, four instances of uncommon bladder lesions were analyzed over the course of a year. The goal is to highlight the necessity of performing prospective, multicenter, randomized studies with extended follow-up to establish treatment protocols for these rare tumors. **Conclusion:** The existing literature does not provide therapy guidelines for uncommon lesions of the urinary bladder. The limited information requires additional research to be carried out to enhance treatment alternatives. One potential approach could be the establishment of a centralized urological registry that is available to urologists practicing both nationally and internationally.

KEYWORDS :

INTRODUCTION

Urinary bladder masses are frequently encountered, with the majority being malignant tumors(1). Urothelial carcinoma is the predominant histopathological type, representing 90% of diagnosed bladder tumors(2). Various benign masses can arise in the urinary bladder; however, these are relatively rare, accounting for 1–5% of total bladder tumors. Initially, benign urinary bladder masses may be mistaken for bladder cancer, as they present with similar clinical signs and imaging features. A conclusive diagnosis is confirmed through histopathological examination of the surgically removed specimen. Because of their infrequent occurrence, unusual bladder lesions are often not well documented in the literature(3). Most studies that exist describe isolated case reports or small series highlighting these uncommon entities.

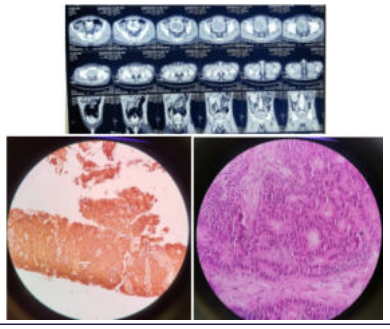
The purpose of our research was to outline the features and outcomes of rare urinary bladder masses, along with the characteristics of patients diagnosed with and treated for these lesions.

CASE SERIES

We used data from our Institute of Urology at Madras medical college. These data are related to the 208 patients who had received treatment for bladder masses between July 2023 – June 2024 . Only four of these patients were diagnosed as having rare bladder lesions.

Case 1:
Rhabdomyosarcoma of bladder(4,5)
Clinical presentation: 58 years male, came to the Emergency Department of the hospital complaining gross hematuria associated with clots and on retention of urine. He is a non-smoker, married, and has children. The family history of cancer is negative.

ENDOSCOPY AND HISTOPATHOLOGICAL FINDINGS: The initial ultrasound KUB showed 5*5*4 cm homogenous mass noted in the bladder. We performed urethrocystoscopy, which showed a lesion of size 8*10cm solitary mass completely obscuring the bladder neck and pelvic computed tomography (CT) scan showed a enhancing filling defect noted in the urinary bladder measuring 8*7*7cm (Figure 1).

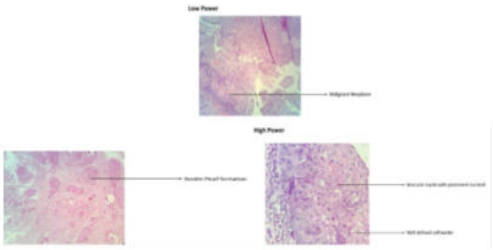


Management: As the patient not willing for surgery, we managed with concurrent chemoradiation as per multidisciplinary approach and currently patient is on regular follow up via cystoscopies and the latest CT-imaging after one year showed no progression.

CASE 2:
Squamous cell carcinoma of bladder(6,7)
Clinical presentation: 65 years female patient came to the Emergency Department of the hospital complaining of gross hematuria. she is a non-smoker, married, and has children.

ENDOSCOPY AND HISTOPATHOLOGICAL FINDINGS: The initial ultrasound showed a mass lesion of size 4*3cms in right lateral wall of bladder. We performed urethrocystoscopy, which showed a large solitary tumor of the right bladder wall, and the abdomen and pelvic computed tomography (CT) scan showed a suspected bladder tumor.

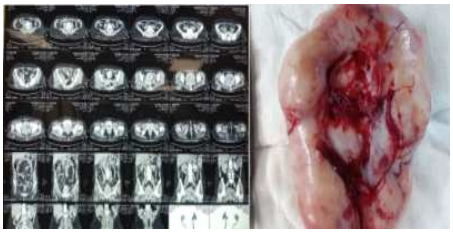
MANAGEMENT: We performed radical cystectomy with ileal conduit and patient currently on regular follow up



CASE 3:
Solitary Fibrous tumor of bladder(8,9)
Clinical presentation: 43 years female patient came to the Emergency Department of the hospital complaining an abdominal pain, increased frequency of micturition,dysuria,urgency. She is married, and has children. The family history of cancer is negative.

ENDOSCOPY AND HISTOPATHOLOGICAL FINDINGS: The initial ultrasound showed large mass lesion arising from left lateral wall of bladder with and bilateral gross hydronephrosis. We performed urethrocystoscopy, which showed a large solitary tumor of the bladder arising from left lateral wall and biopsy taken, and the abdomen and pelvic computed tomography (CT) scan showed 7*8*4 cms well defined lobulated hypodense homogenous enhancing pedunculated lesion arising from the posterior and left lateral wall of bladder compressing bilateral vesicoureteral junction with bilateral grade 3 hydroureteronephrosis. Management: We performed initial biopsy and biopsy report came as benign fibrous tumor of bladder.we planned for tumor excision transvesically with consent for partial or total cystectomy,intraoperatively lesion was excised with cuff of bladder mucosa and bilateral dj stent and spc placed .The ongoing aftercare via

cystoscopies and the latest CT-imaging after six months showed normal study with no residual lesion.



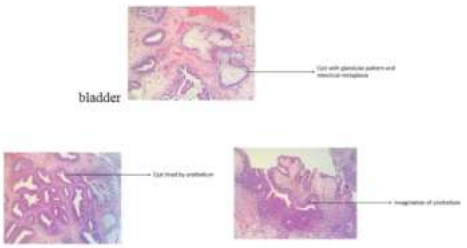
CASE 4 :

Cystitis cystica glandularis(10,11)

Clinical presentation: 40 years female patient came to the Emergency Department of the hospital complaining of hematuria.she is married, and has children. The family history of cancer is negative.

Endoscopy and histopathological findings: The initial ultrasound showed mass lesion arising from base of bladder raised. We performed urethrocystoscopy, which showed a large solitary tumor of the bladder base, and the abdomen and pelvic computed tomography (CT) scan showed a mass lesion arising from base of bladder

MANAGEMENT: We performed complete transurethral resection of lesion and biopsy came as cystitis cystica glandularis.The ongoing aftercare via cystoscopies and the latest CT-imaging after one year showed normal study.



DISCUSSION

The majority of the patients (208) were diagnosed with primary urothelial carcinoma of the bladder. The proportion of classic urothelial carcinoma cases in the urinary bladder was 98.1%. This is why the causes, development, diagnosis, treatment, and follow-up care for this histological tumor type are thoroughly researched and outlined in established guidelines. The histological tumor type, along with its causes, development, diagnosis, treatment, and follow-up, has been extensively studied and codified in guidelines. As a result, treatment protocols are aligned with both national and international standards. In contrast, the rare urinary bladder lesions, which make up only 1.9% of our cohort, lack consistent treatment recommendations. Only anecdotal reports are available for evaluation purposes.

Bladder lesions encompass various histological types and subtypes that possess distinct prognostic indicators, necessitating tailored treatment strategies. These variants require a histological diagnosis and should be managed in accordance with established guidelines. The various subtypes include sarcomas, squamous cell carcinomas, and benign lesions. Additionally, other tumor types such as adenocarcinomas originating from different organs, melanomas, or lymphomas may metastasize to the bladder. The rarity of these tumors poses a significant challenge in formulating definitive conclusions regarding treatment options. To date, there is no objective analysis based on controlled prospective studies available. The existing treatment protocols rely on accumulated insights from managing small patient cohorts and individual case reports over the years, influenced by advances in the treatment of urothelial carcinoma. In particular, for pT2 N0 tumors, radical cystectomy has proven to be essential. Moreover, the various bladder carcinomas are becoming increasingly resistant to adjuvant treatment approaches. While certain patients with histologically confirmed squamous cell carcinoma or adenocarcinoma may benefit from ionizing radiation, numerous unanswered questions remain about patient selection, the type of radiation, the side effects of such treatment, and the benefits of concurrent chemotherapy. Overall, further investigation and assessment of the significance of adjuvant radio- or radio-chemotherapy are warranted in ongoing research.

Rhabdomyosarcoma (RMS) in adults is uncommon, and due to this infrequency, definitive treatment options are not fully established. The survival rate for adults is approximately one-third that of children diagnosed with RMS. When it comes to stage, location, gender, and lymph node involvement, there is no notable distinction between adults and children, suggesting these clinical factors may not explain the disparity in outcomes between the two groups. Several potential reasons for this discrepancy include: 1) There is currently no standardized protocol for treatment that is widely accepted for adults 2) The chemotherapy dosages given to adults can vary significantly 3) There is a need for a standardized histological classification of the tumors 4) Certain adult RMS cases might be reclassified following chromosomal analysis. Increased comprehensive and standardized data is necessary, as there is a considerable gap between the understanding and treatment approaches for pediatric RMS and adult RMS.

Due to the infrequency of squamous cell carcinoma (SCC), there is insufficient Level I evidence to guide its management. Radical cystectomy (RC) continues to be the standard treatment for SCC, although local recurrences are frequently observed. In light of recent developments in radiotherapy and prior studies indicating enhanced outcomes with its use, the potential role of neoadjuvant/adjuvant radiation therapy should be reconsidered. Immunotherapy employing new agents that target PD-1 and PD-L1 may also enhance clinical outcomes. Considering the rarity of non-urothelial histologies, SCC should be incorporated into clinical trials focused on immunotherapy, as tumor response is not dependent on the location of the primary tumor or its histology. The incorporation of biomarkers alongside traditional pathological prognostic factors such as stage, grade, lymph node involvement, and lymphovascular invasion (LVI) could improve prognosis and inform multimodal treatment strategies in the context of personalized medicine.

Solitary fibrous tumors are uncommon and generally indolent neoplasms, but it is important to exercise caution, as they can occasionally metastasize. Utilizing a risk stratification tool can aid in identifying which patients may require more aggressive treatment. Surgical excision remains the primary treatment option; however, forthcoming studies may further establish the role of neoadjuvant or adjuvant radiotherapy.

Cystitis cystica et glandularis represents a rare clinicopathological condition that often resembles a bladder tumor. This condition is prevalent among males and typically presents with symptoms related to the lower urinary tract. Transurethral resection is the main treatment approach for this condition. Nevertheless, it is frequently linked to upper tract hydronephrosis. Its debated premalignant nature, combined with the risks of recurrence and deterioration of the upper tract, necessitates careful monitoring.

CONCLUSION

The existing urological guidelines do not provide detailed treatment recommendations for infrequent urinary bladder lesions. Due to a lack of comprehensive data, ongoing research to enhance treatment strategies is necessary. One potential approach could be the establishment of a centralized urological registry that is available to urologists practicing both nationally and internationally. This registry would compile all relevant information from urological patients, including their diagnosis, histological findings, treatment recommendations, and follow-up care.

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